A RESOURCE MANAGEMENT PERSPECTIVE ON WORK DESIGN

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ABSTRACT

Chronic, negative, uninterrupted stress, specifically in the workplace, can lead to a variety of health issues as well as decreased job satisfaction and increased intentions to turnover within an organization. An important part of managing this negative stress is identifying the specific factors that contribute to it. The present study focuses on the negative consequences of occupational stress by identifying the work design characteristics that influence an individual's perception of resource drain or gain and, ultimately, occupational stress. It is hypothesized that positive task characteristics, knowledge characteristics, social characteristics, and work context associated with the work environment will negatively correlate with an individual's perception of occupational stress and that this relationship will be mediated by resource drain or gain. A mediation analysis was conducted and partial support was found for all indirect effects between work design characteristics and occupational stress through an employee's perception of resource drain or gain.

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LIST OF ABBREVIATIONS

COR, Conservation of Resources

JCT, Job Characteristics Theory

WDQ, Work Design Characteristics

RIJ, Resource Impact of the Job

CHAPTER I

INTRODUCTION

Whether it comes from work, school, or personal life, individuals deal with stress on a daily basis. Stress is "an individual's psychological response to a situation in which there is something at stake for the individual and where the situation taxes or exceeds the individual's capacity or resources" (LePine, LePine, & Jackson, 2004, p. 883). The individual may either evaluate the situation as challenging and beneficial or threatening and harmful. If the situation is seen as threatening or harmful, the individual may experience some negative consequences. An important part of managing this negative stress is identifying the contributing factors.

The workplace is a prominent source of stress. Occupational stress affects not only individual workers and the businesses that employ them, but also impacts workers' families and communities outside the work environment. Chronic and uninterrupted stress can lead to a variety of health issues including chronic disease (McDonough & Walters, 2001), emotional exhaustion, and depersonalization (Purvanova & Muros, 2010). It may also lead to a decrease in positive attitudes toward the job, such as job satisfaction, and an increase in negative attitudes and intentions regarding the job, such as intentions to turnover (Kemery, Mossholder, & Bedeian, 1987). For these and other reasons, stress is often "associated with impaired individual functioning in the workplace" (Fairbrother & Warn, 2003, p. 9). By identifying specific factors within a job or work environment that contribute to employee stress, it may be possible to better

design jobs, work environments, and stress management programs to mitigate the effects of such factors. Doing so could benefit both the employees and the organizations that employ them.

The following sections provide the foundation for the present study. First, relevant theoretical background is presented, primarily focused on Conservation of Resources Theory as it pertains to the work environment. Second, the concept of occupational stress is discussed. Finally, models of work design are presented and this theoretical background is then linked to employee stress within the work context, as the hypotheses are presented.

CHAPTER II

LITERATURE REVIEW

Stress from a Resource Perspective: COR Theory

A practical theory in the work stress literature is the Conservation of Resources Theory (COR; Hobfoll, 1989). At the heart of this theory is the idea that people require a variety of psychological and social resources to effectively function in day-to-day life. Hobfoll defined resources as "those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies" (p. 516). Table 1 summarizes these resources in a conceptual manner.

Table 1

Types of Resources

Resource Categories	Definition	Examples
Objects	Physical items of value due to their utility, rarity, or symbolism	Necessary equipment, tools
Personal Characteristics	Traits that help with stress resiliency	Positive affect, self-efficacy
Conditions	States of being that have value due to their general desirability	Seniority, tenure
Energies	Resources that are valued in that they lead to acquiring other resources	Money, credit

Note: Adapted from Morelli and Cunningham (2012) and Hobfoll (1989)

COR states that stress is experienced by a person when any of three circumstances exists: (1) *when individuals' resources are threatened with loss*, (2) *when individuals' resources are lost*, and (3) *when individuals' fail to gain resources following investment of other resources.* A unique quality about this theory is that it can help to explain the functioning of individuals within specific social systems and organizations, insomuch as these structures may help to replenish or drain a person's resources (Hobfoll & Lilly, 1993).

In developing this theory, Hobfoll considered Freud's notion that people actively seek to maximize their pleasure and minimize their pain. This concept had been largely ignored in the stress literature until the COR was developed. Hobfoll also took into account Maslow's (1943) Hierarchy of Needs, which implied that people gain resources in a hierarchical order necessary to sustain life. These two historical theories of motivation help to explain why an actual or potential loss of resources will produce a feeling of stress.

Within COR there are two basic principles and four corollaries. The first principle is that resource loss is more important and, therefore, more influential than resource gain. The second principle states that one must invest resources to either prevent future loss or to obtain gain. For this type of investment to occur, the individual must have some level of psychosocial resources available to invest. In a work context, this also means that to prevent negative consequences the organization must at least provide the opportunity for individuals to gain or replenish such resources and not only to drain or expend them (Hobfoll & Lilly, 1993).

Four corollaries (presented in Table 2) follow from these two basic principles; the first and the last of these are most pertinent to the present study. The first corollary states that those with more vs. fewer resources will have an easier time gaining more resources and be less likely

to experience resource loss (Hobfoll & Lilly, 1993). This may explain why some jobs are more typically stressful than others and why some people experience higher levels of stress than other people, regardless of their job situation. Hobfoll (2001) further proposed that a prolonged period of resource investment by the employee that yields no resource gain will lead to a serious form of strain known as burnout. The fourth COR corollary states that those with fewer vs. more resources will be more cautious and less willing to expend or invest the resources that they do have, to defend against further loss (Hobfoll & Lilly, 1993).

Table 2

Conservation of Resources Corollaries

Corollary	Defined
1	Those with greater resources are less vulnerable to resource loss and more capable of resource gain and, conversely, those with fewer resources are more vulnerable to resource loss and less capable of resource gain.
2	Those who lack resources are not only more vulnerable to resource loss, but that initial loss begets future loss.
3	Those who possess resources are not only more capable of gain, but that gain begets further gain.
4	Those who lack resources, in contrast, are predicted to take a defensive posture in order to guard their resources.

Note: Adapted from Hobfoll and Lilly (1993)

The following work example illustrates the corollaries. Employees in a job or work environment that offers limited opportunities for resource gain may be less inclined to invest their personal resources out of fear that there will be no return on their investment. From an organizational perspective, this might mean that these employees would be unwilling to reach their full potential, because they perceive the exertion of extra effort at work as solely a resource

draining activity and not likely to result in resource gain as contemplated by Expectancy Theory (Vroom, 1964). Expectancy Theory proposes that the likelihood of an employee performing a behavior will increase if the employee a) believes they can successfully perform the behavior, b) the behavior will lead to an outcome, and c) that outcome is valued. Similarly, COR theory suggests that employees will be less motivated to put in the extra effort needed for high performance if there are no valued outcomes or rewards.

COR theory also suggests that employees who come to work with more available resources may be more able and willing to invest a larger portion of their available resources into their work-related efforts. Perceiving availability of resources (and possibly having the ability to regain and replenish resources outside of work that they expend while at work), reduces an employee's vulnerability to circumstances in the work environment and may, therefore, enable them to function at higher levels than employees who lack such resources.

These central elements of COR Theory suggest that stress will occur when resources are lost or threatened, and/or when the amount of resources provided within the work environment is inadequate to meet the demands. Demerouti, Bakker, Nachreiner, and Schaufeli's (2001) Job Demands-Resources Model found supporting evidence for this hypothesis. They found that job demands had a positive and significant relationship with exhaustion while job resources were negatively and significantly related to disengagement. Other researchers also pursuing this line of inquiry have supported these expectations and also found that work demands are typically viewed as losses within themselves because they require the investment of other resources (Janssen, Schaufeli, & Houkes, 1999; Lee & Ashforth, 1996).

Specific Occupational Stressors

In addition to its theoretical value, COR identifies three ways to define the experience of stress: as a stimulus, response, or stimulus-response phenomenon. The stimulus-response definition is perhaps the most widely accepted, defining stress as "the overall process by which the work environment may negatively impact employees" (Jex & Britt, 2008, p. 200). Stressors within this process are aspects of the work environment that cause an employee to have to change his or her behavior. They are perceived and appraised by employees and when experienced as stressful (i.e., resource threatening, from a COR perspective), there is the possibility that strain will develop. Strains can be psychological, physical, or behavioral (Jex & Britt). Stress may also result from a person's efforts to resist outside forces until the ability to resist these forces has deteriorated (i.e., the person has no more resources left to expend on such resistance; Hobfoll, 1989).

Potential stressors within the work environment can take many forms. Lee and Ashforth (1996) mentioned role ambiguity, role conflict, and heavy workload as being central and common demands of the workplace, while social support, job enhancement opportunities, and autonomy are resources provided in the workplace. As noted above, however, both confronting demands and losing resources are likely to be experienced as stress by employees. Thus, any stimulus in the work environment has the potential to function as a stressor and be perceived as stressful if it threatens a person's resources in some way.

Models of Job and Work Design

Researchers have defined and evaluated work in terms of a number of environmental factors (Child, 1972), employees' perceptions of the work environment (i.e., psychological

climate; Jones, James, Bruni, Hornick, & Sells, 1979), factors associated with creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996), and job (Hackman & Oldham, 1976) and work design frameworks (Morgeson & Humphrey, 2006).

A work design perspective has emerged relatively recently, as a more general approach to understanding characteristics of the work environment than was possible in previous job-centric theories or models. As illustrated in recent work by Morgeson and Humphrey (2006), work design has emerged as an extension of earlier theories of job design, such as Hackman and Oldham's (1976) Job Characteristics Theory (JCT). JCT posits that "core" job dimensions can engender specific psychological states within workers, which then may lead to different work outcomes. Additionally, an individual's growth need strength (GNS), or the need for personal growth and development, moderates this process at two points: (1) between the core dimensions and their resulting psychological states and (2) between the psychological states and work outcomes. The JCT theory was developed because previous theories lacked a refined explanation of the relationship between job characteristics and individual responses (Hackman & Oldham, 1976).

Morgeson and Humphrey's (2006) model of work design was also influenced by Campion and Thayer (1987), who compiled over 700 job design rules from various job design theories. From their review of these design rules, Campion and Thayer identified four overarching approaches to job design (summarized in Table 3). The motivational approach highlighted by Campion and Thayer is the primary area explored in the present study.

Table 3

Four Overlying Approaches to Job Design

Approach	Originated From	Definition
Motivational	Job enrichment and enlargement literature	Job design is focused on what makes jobs meaningful
Mechanistic	Scientific management and motion studies	Job design is focused on work simplification and specialization
Biological	Biomechanics literature	Job design is focused on minimizing the physical costs and biological risks of work
Perceptual Motor	Human engineering literature	Job design is focused on how people mentally process information as well as their perceptual and motor abilities

Note: Adapted from Campion and Thayer (1987)

Building on these earlier job characteristics models, Morgeson and Humphrey (2006) identified three key reasons for an integrative work design model with companion measure. First, the existing literature was either too specific (focusing on specific job tasks) or too general (measuring general job attributes). Second, the dominant JCT and its measure was dated and potentially losing relevance to the design of more current organizations. Third, the possibilities for actually redesigning work may be restricted by the limited number of job characteristics accounted for in traditional job design models. Overall, Morgeson and Humphrey believed a more work-focused than job-focused perspective on design was needed because more inclusive work characteristics would result in more targeted changes in the work.

Other models of job design tackle components of the JCT or slightly different organizational factors such as Karasek et al.'s (1998) demand-control framework, Siegrist's

(1996) effort-reward imbalance model, and Grant's (2007) relational job design model. There has not, however, been a consistently applied approach to studying the impact of work environment and design features on employee functioning and wellbeing. To address this lack of consistency, Morgeson and Humphrey (2006) argued that a more fruitful and generalizable approach to studying work environment characteristics would be to study work design, which not only acknowledges the job itself, but also the links between elements of a job and the broader work environment in which that job exists.

CHAPTER III

THE PRESENT STUDY

COR theory proposes that individuals strive to gain or at least maintain/protect resources. In some instances, individuals may invest resources with the expectation of a return on those resources. When resources are lost, threatened to be lost, or not returned after an investment, stress occurs (Hobfoll, 1989). This theory can be applied in the context of individuals and larger social systems to explain how a group, or organization, is able to provide or deny access to important resources. If an organization, then, fails to provide access to needed resources or threatens the resources that an employee has, COR theory states that stress is likely to be experienced by workers within that organization (Hobfoll & Lilly, 1993).

Based on this central premise of COR theory and the preceding work design perspectives the present study, was designed to test whether the presence/or absence of various work characteristics leads employees to experience either more drain or more gain in resources (i.e., perceived resource impact of the job, RIJ), which may also help to explain levels of perceived work-related stress.

There are four basic work design elements within Morgeson and Humphrey's (2006) work design model that are likely to be relevant to the present study: 1) positive task characteristics, 2) positive knowledge characteristics, 3) positive social characteristics, and 4) positive work context.

Positive task characteristics include items that are concerned with the range and substance of the tasks associated with a specific job as well as how the work is accomplished. Subcategories within this category include items such as autonomy and task identity. Having these aspects of the work environment present have been shown to lower employees' stress in the workplace. Lu, Chang, and Lai (2011), found that employees with a lack of autonomy exhibited lower job satisfaction, and high stress. Having autonomy gives employees a sense of responsibility and power (Jex & Britt, 2008; Ruyter, Wetzels, & Feinberg, 2001). Similarly, participants with high amounts of role ambiguity (or low task identity), were found to have lower performance levels (Beauchamp, Bray, Eys, & Carron, 2002). Role ambiguity is a particular source of stress for employees because it creates the feeling of not having enough information to either complete one's assigned task or know how one will be evaluated on his or her efforts (Ruyter et al., 2001). Therefore, it is hypothesized that:

H1: Positive task characteristics are (a) negatively related to perceived occupational stress and (b) this relationship is mediated by perceived RIJ.

Morgeson and Humphrey (2006) defined *positive knowledge characteristics* as "the kinds of knowledge, skill, and ability demands that are placed on an individual as a function of what is done on the job" (p. 1323). Included in this category of work design characteristics are factors such as job complexity and skill variety. They specifically noted that job complexity in this instance refers to the positive aspects of complexity. Edwards, Scully, and Brtek (2000) found that the challenge associated with job complexity can result in more positive motivational outcomes. Knoop (1994) also found that a stimulating job will not produce stress and may actually help to relieve stress from other sources. According to the JCT, a variety in a job leads to higher experienced meaningfulness and, consequently, higher internal motivation and job

satisfaction with lower absenteeism and turnover (which result from occupational stress) (Hackman & Oldham, 1976). In reference to knowledge characteristics, therefore, it is hypothesized that:

H2: Positive knowledge characteristics are (a) negatively related to perceived occupational stress and (b) this relationship is mediated by perceived RIJ.

Positive social characteristics include all work design features that involve interacting with others in the social context of work. This interaction can be with coworkers, managers, or people outside of the organization. Although Hobfoll (1989) did not explicitly list *social support* as a resource in his COR Theory, he noted that it is "a resource to the extent that [it] provide(s) or facilitate(s) the preservation of valued resources" (p. 517). A lack of social support in the workplace can contribute to workers' feelings of exhaustion and depersonalization (Halbesleben, 2006). Of the multiple workplace dimensions studied by Fairbrother and Warn (2003), disruption of personal relationships (i.e., one's social support network) was the only factor that predicted both stress and job satisfaction. The presence of social support has been found to negatively correlate with job stress for both men and women (Geller & Hobfoll, 1994; Vermeulen & Mustard, 2000). Furthermore, Etzion (1984) found that social support in both life and work was negatively related to burnout.

Research has also shown that social support decreases perceived stress (Etzion, 1984; Geller & Hobfoll, 1994; Vermeulen & Mustard, 2000). Hobfoll, Lilly, and Jackson (1992) suggested two possible explanations for this relationship. First, they suggested that by having a social network, others can directly give a resource to an individual in need. Second, an individual's social network may be able to provide a catalyst to a resource that the individual cannot otherwise put into action. Therefore, it is hypothesized that:

H3: Positive social characteristics are (a) negatively related to perceived occupational stress and (b) this relationship is mediated by perceived RIJ.

Positive work context, concentrates on the physical aspects of the work environment. This may include the physical demands, the equipment use requirements, or the ergonomics associated with the particular job. When trying to manage stress, it is critical that the employee feel safe and comfortable in the work environment. Maslow's (1943) Need Hierarchy proposed that humans have five need levels that must be met in a particular order. The second need in the hierarchy is safety. If employees in a workplace do not feel like their safety needs are being met, this will produce a stressful environment. Sulsky and Smith (2005) noted a few physical aspects of the work environment that may harm employees as well as reduce performance. Exposure to extreme noise, for example, can lead to irreversible hearing loss as well as a decline in performance. Extreme temperature is another physical aspect of the work environment that has the potential to be very dangerous to employees. In situations with intense heat, the body will eventually take in more heat than it can release and serious illness or death can result. In regards to the work context, it is hypothesized that:

H4: Positive work context is (a) negatively related to perceived occupational stress and (b) this relationship is mediated by perceived RIJ.

The study hypotheses are summarized in Figure 1.

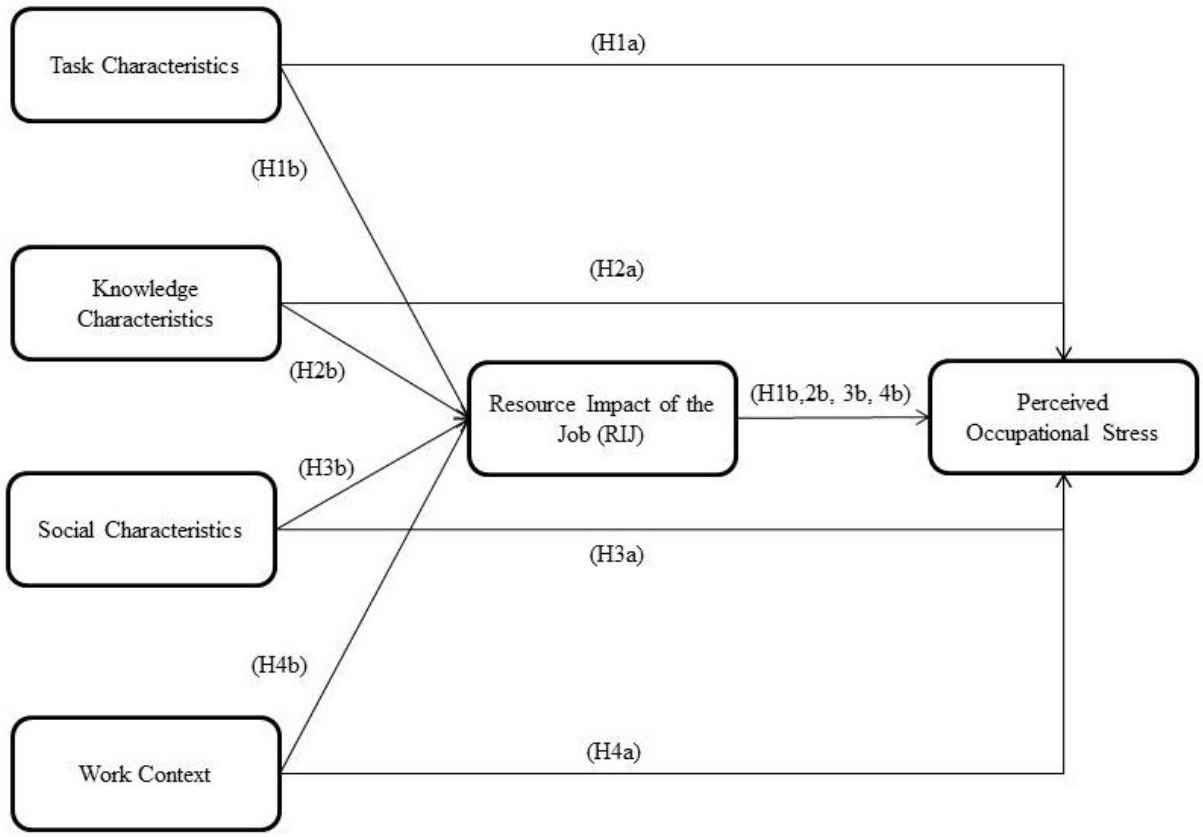

Figure 1 Conceptual Model of the Work Design Characteristics, Resource Gain or Drain, and Perceived Occupational Stress

CHAPTER IV

METHOD

Participants

The present study surveyed participants from a variety of jobs and working conditions to facilitate preliminary testing of the hypothesized model in a diverse and representative sample of a variety of different workers in different occupations. A summary of the collection methods and the approximate response rates, before accounting for incomplete responses, is shown in Table 4. The first batch of participants came from a college organization's alumni electronic mailing list and the staffing, compensation, and benefits department of the Chattanooga branch of a trucking and shipping company. After their data were collected, a second batch of participants was sampled from within the lifelong learning department of a mid-sized public university in the southeastern United States, real estate agents in the mid-Atlantic United States, a small team of financial leadership development employees from a national defense and security company in the eastern region of the United States, and employees from a Chattanooga branch of a franchised restaurant and brewing company. Finally, the survey link was also posted on a variety of LinkedIn groups to gather responses from volunteers who could be accessed via social media. This sampling approach was purposive, to increase the variety of respondents and respondents' work conditions, given the objectives of the present study.

Table 4

Response Rate per Collection Method

Collection Method	Number Contacted	Number Responded	Response Rate
Alumni electronic mailing list	416	114	27.40%
Staffing, compensation and benefits department	24	14	58.33%
Lifelong Learning department	11	10	90.91%
Real estate office	75	13	17.33%
Financial leadership development team	20	8	40.00%
Restaurant and brewing company	108	7	6.48%
LinkedIn	43,868	114	0.26%

The final sample consisted of mostly females (76%) and the mean age among participants was 34 years (*SD* = 11.25). The majority of the participants were Caucasian (90%), whose highest level of education was a bachelor's degree (37%). An equal amount of participants were either single or married (46.63% for each) with the remaining participants being divorced (6.7%). The mean average yearly household income for the sample was $81,659 (*SD* = $53,102) and the mean number of hours worked in an average week was reported to be 44.96 hours (*SD* = 7.83). Roughly 57% of participants claimed they were responsible for zero dependents (both children and elderly).

Procedure

All procedures were approved by the university's Institutional Review Board (documentation in Appendix A). Participants completed an internet-based survey hosted by SurveyMonkey, which consisted of questions regarding demographics and the variables described below.

Measures

All measures used in this study are included in Appendix B.

Demographic information. Demographic information was collected from all participants, including sex, age, ethnicity, education, marital status, annual household income, number of dependents (children and elders), average number of hours worked in a week, industry, job title and managerial status.

Work design. Morgeson and Humphrey's (2006) Work Design Questionnaire (WDQ) was used to evaluate the different types of work characteristics included in the present study. In designing the WDQ, Morgeson and Humphrey reviewed previous literature on job and work design to compile a list of 107 work characteristics. Through a multi-stage sorting and narrowing process, they produced 18 work characteristic categories. To establish construct validity of the scale, Morgeson and Humphrey compared the major categories of the WDQ against items and information contained in the Dictionary of Occupational Titles (DOT) and the Occupational Information Network (O*NET). The final WDQ measure is a 77 item scale

divided into four overlying categories. Each item within each of the scales in these categories is scored on a five-point *disagree strongly* to *agree strongly* scale. High scores for each characteristic and category reflect a greater perceived presence of each type of work characteristic. In the present study, items that were originally worded "the job…" were changed to state "my job…" to improve clarity for respondents. The four general types of work characteristics included in the WDQ and targeted in the present research were the following.

Positive Task Characteristics include the subcategories of autonomy (including work scheduling, decision-making, and work methods autonomy), task variety, task significance, task identity, and feedback from job. Work scheduling autonomy, decision –making autonomy, and work methods autonomy were combined together into one variable because they were so highly correlated. *Positive Knowledge Characteristics* include the subcategories of job complexity, information processing, problem solving, skill variety, and specialization.

Positive Social Characteristics include the subcategories of social support, interdependence (including initiated and received), interaction outside the organization, and feedback from others. Initiated and Received interdependence were combined together because they were so highly correlated to one another. Finally, *Positive Work Context* includes the subcategories of ergonomics, physical demands, work conditions, and equipment use. The ergonomics subscale originally consisted of three items, but one item ("the job involves excessive reaching") was excluded from the present analyses because it further reduced the reliability of this subscale and was identified as largely irrelevant given the nature of the occupations represented by the study participants.

Resource Impact of the Job (RIJ). The Conservation of Resources (COR) theory provides a unique perspective on stress. COR theory states that individuals aim to gain valuable resources and the threat of loss or actual loss of resources produces stress. Resources can be in the form of objects, conditions, personal characteristics, or energies (Hobfoll, 1989). Hobfoll and Lilly (1993) developed the Conservation of Resources Evaluation (COR-E) to evaluate the psychosocial resources available to an individual. As the present study focused on the work environment, 33 of the original 74 COR-E resources were removed due to the low likelihood that they would be impacted directly by factors in the job or work environment. After a small SME pilot test (n = 4 graduate students in psychology) of the measures, five additional COR-E items were removed for similar reasons, based on respondents' input.

The resultant RIJ measure included 36 of the original 74 COR-E resources, focusing on resources that had the potential to be impacted directly by experiences or factors within the job or work environment. Participants were asked to rate the extent to which they felt their work-related activities replenished and drained them of each of these 36 work-related resources (cf., Cranley & Cunningham, 2012) using a response scale that ranged from 1 (*not at all*) to 7 (*completely*). These drain and gain ratings were then combined into a single indicator of RIJ, by subtracting the perceived drain impact rating from the perceived gain impact rating. Higher scores on this RIJ indicator reflected a more positive experience within the work environment in which participating in work activities added to participants' resources more than it drained them of these resources.

Perceived Occupational Stress. Stanton, Balzer, Smith, Parra, and Ironson's (2001) Stress In General scale was used to measure general perceived stress related to the job or work

environment. The recently revised Brodke et al. (2009), eight-item scale consists of words or phrases to which the participants answered yes, no, or cannot decide for how they feel regarding their jobs. A high score on this scale (indicated by answering "yes" on more questions than "no") indicated high levels of stress in general.

Personality Trait Covariates. Two scales were used as covariates to help identify overlying personality differences that may have had an effect on the individual's responses. The 12-item Core Self Evaluation scale (Judge, Erez, Bono, & Thoresen, 2003) asks respondents to indicate their level of agreement on a five point scale (1 = *strongly disagree*) with statements about personal characteristics. A higher score indicates a more positive general sense of self-worth. The second measure, Watson and Clark's (1994) PANAS-X scale, identifies an individual's positive and negative trait affect. In the present study, only trait negative affect (NA) was assessed, to avoid redundancy with the Core Self-Evaluations measure (which overlaps with positive affect), while still addressing a common trait that may influence perception of stressors and work environment characteristics. The NA subscale of Watson and Clark's measure includes 10 descriptors with negative connotations. Participants rated the extent to which he or she felt that emotion within the past few days. Each item is rated on a 1 *(very slightly or not at all)* to 5 *(extremely)* scale. A higher score on this measure reflects a higher degree of trait NA.

CHAPTER V

RESULTS

Analysis Approach

Before running any analyses, each participant's responses were carefully reviewed. Individuals who worked less than 30 hours per week, spent more than 4 hours taking the survey, or who answered less than half of the survey items were removed from the data set. The logic behind eliminating participants who work less than 30 hours was that these individuals are not exposed to as much of their work environment as those who work full-time (more than 30 hours) and, therefore, may have skewed the data. Following this, missing data points were imputed for participants if they were missing small numbers of responses on a given scale (i.e., 1 or 2 responses, seemingly at random); the imputed value was the neutral response scale value for a given measure.

A new approach to testing mediation (Preacher & Hayes, 2008) was used to test the hypotheses in the present study. Specifically, the MEDIATE macro recently developed by Hayes, Preacher, and Hayes (2012) was used within SPSS 20 to test the hypothesized indirect effects linking perceived work characteristics and perceived work-related stress, as mediated by the RIJ. This analytical method works especially well with smaller sample size studies, using bootstrapping to generate statistical estimates that more accurately represent actual population parameters. For the present study, 10,000 bootstrapping samples were used to increase the accuracy of the final statistical estimates reported for the hypothesized direct and indirect (i.e.,

mediated) effects. Bootstrapping consists of taking *N* number of smaller samples with replacement from the overall sample and running the analyses to generate more accurate statistical estimates.

In all analyses testing the hypotheses, age, education, annual household income, number of average hours worked in a week, and sex were included as covariates along with participants' Core Self Evaluation and NA scores. All reported results, therefore are over and above the variance explained by this core set of demographic and personality covariates. All results were identified as statistically significant if $p < .05$ or the 95% confidence interval around the estimate excluded 0.

Results

Descriptive statistics and intercorrelations for all study variables are summarized in Table 5. The results of the hypothesis tests are summarized in Tables 6 through 10 and Figures 2 through 4. All effects reported are over and above the impact of the demographic and personality covariates listed in the previous section.

Hypothesis 1 stated that (a) positive task characteristics are negatively related to perceived occupational stress and (b) this relationship is mediated by employees' perceived resource impact of the job. In the absence of the RIJ mediator, autonomy was the only positive task characteristics that significantly predicted perceived stress in the predicted direction, showing partial support for Hypothesis 1a. After including the RIJ mediator, significant indirect effects were identified for autonomy, task significance, and task identity through RIJ when predicting occupational stress. In addition, the overall set of indirect effects linking positive task characteristics with occupational stress through RIJ was significant. These findings provide

partial support for Hypothesis 1b. As an indication of overall model fit, the covariates and positive task characteristics alone accounted for roughly 43% of the variance in perceived work-related stress. After including the RIJ mediator, the overall model accounted for 45% of the variance in perceived work-related stress.

Table 5

Descriptive Statistics and Intercorrelations among Study Variables

	M	*SD*	α	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*
1. Age	34.11	11.25	n/a							
2. Education	5.52	1.51	n/a	.25 **						
3. Income	$81,659.26	$53,102.69	n/a	.46 **	.41 **					
4. Work Hours	44.96	7.83	n/a	.01	.17 *	.14				
5. Female	0.76	0.43	n/a	-.05	.15 *	.12	-.04			
6. Core Self Evaluation	3.60	0.61	.83	.03	.00	.12	-.05	-.13		
7. Negative Affectivity	1.91	0.69	.88	-.13	-.01	-.19 *	.19 *	.16 *	-.62 **	
8. Autonomy	3.97	0.85	.93	.22 **	.13	.20 *	.14	-.09	.28 **	-.22 *
9. Task Variety	4.18	0.85	.94	.14	-.09	.05	.10	-.06	.22 **	-.14
10. Task Significance	3.74	0.99	.89	.08	-.24 **	.03	.05	.15 *	.10	-.07
11. Task Identity	3.63	0.97	.88	.14	-.14	.04	-.07	-.03	.12	-.17 *
12. Feedback from Job	3.54	1.00	.89	.06	-.14	.05	.00	-.10	.25 **	-.17 *
13. Job Complexity	4.13	0.90	.86	.22 **	.34 **	.35 **	.17 *	.03	-.04	.16 *
14. Information Processing	4.42	0.59	.79	.26 **	.24 **	.30 **	.34 **	.15 *	.07	-.04
15. Problem Solving	3.82	0.81	.79	.06	.22 **	.19 *	.23 **	.03	.09	.02
16. Skill Variety	4.24	0.74	.91	.21 **	.14	.18 *	.16 *	.09	.07	-.01
17. Specialization	3.92	0.81	.86	.19 *	.15 *	.08	.12	.00	-.04	.01
18. Social Support	4.04	0.80	.86	-.11	-.05	-.02	.02	.02	.24 **	-.23 **
19. Interdependence	3.61	0.92	.89	-.02	-.28 **	.08	.02	.01	.07	-.06
20. Interaction Outside the Organization	3.24	1.34	.96	.08	-.07	.14	.09	.10	.03	-.02
21. Feedback from Others	3.31	1.06	.93	-.10	-.08	-.05	.07	.04	.30 **	-.14
22. Ergonomics	3.64	1.01	.79	-.01	.00	-.04	.04	-.10	.27 **	-.18 *
23. Physical Demands	1.74	1.06	.97	-.08	-.32 **	-.25 **	-.08	-.21 **	-.16 *	.15 *
24. Work Conditions	3.63	0.98	.82	-.01	.20 **	.06	.02	.08	.16 *	-.20 **
25. Equipment Use	2.76	1.21	.87	.11	-.10	-.09	.06	-.23 **	-.16 *	.13
26. Conservation of Resources -	3.13	0.81	.97	.02	-.02	.00	-.02	-.08	.51 **	-.48 **
27. Conservation of Resources - Drain	2.29	0.95	.98	.09	-.04	.00	.24 **	.07	-.40 **	.38 **
28. Stress in General	1.67	0.92	.83	.00	-.05	-.10	.34 **	.14	-.35 **	.46 **

Note. * denotes $p < .05$, ** denotes $p < .01$; *N* ranges from 160-178; female coded 1 = female, 0 = male

Table 5. Continued

	8.	*9.*	*10.*	*11.*	*12.*	*13.*	*14.*	*15.*	*16.*	*17.*
1. Age										
2. Education										
3. Income										
4. Work Hours										
5. Female										
6. Core Self Evaluation										
7. Negative Affectivity										
8. Autonomy										
9. Task Variety	.27 **									
10. Task Significance	.20 **	.32 **								
11. Task Identity	.24 **	.05	.17 *							
12. Feedback from Job	.31 **	.27 **	.34 **	.36 **						
13. Job Complexity	.11	.05	-.09	-.22 **	-.11					
14. Information Processing	.19 *	.24 **	.22 **	-.03	.06	.40 **				
15. Problem Solving	.34 **	.31 **	.12	.03	.20 **	.33 **	.41 **			
16. Skill Variety	.24 **	.44 **	.22 **	.03	.11	.42 **	.53 **	.56 **		
17. Specialization	.20 **	.11	.23 **	.13	.16 *	.30 **	.40 **	.31 **	.45 **	
18. Social Support	.21 **	.20 **	.30 **	.32 **	.29 **	-.06	.17 *	.28 **	.15 *	.19 *
19. Interdependence	-.03	.08	.30 **	.15 *	.13	-.08	.13	.03	.14	.14
20. Interaction Outside the Organization	.21 **	.27 **	.33 **	.15 *	.17 *	-.09	.09	.23 **	.11	-.02
21. Feedback from Others	.21 **	.16 *	.22 **	.25 **	.52 **	-.15 *	.08	.23 **	.07	.16 *
22. Ergonomics	.27 **	.29 **	.08	.08	.05	.10	.17 *	.19 *	.26 **	.01
23. Physical Demands	-.10	.07	.10	.16 *	.26 **	-.18 *	-.22 **	-.06	-.01	.11
24. Work Conditions	.25 **	.11	-.02	.06	.00	.03	.07	.27 **	.13	-.05
25. Equipment Use	-.07	.15 *	.03	.11	.12	.01	.00	-.02	.13	.28 **
26. Conservation of Resources -	.43 **	.30 **	.36 **	.34 **	.44 **	-.16 *	.08	.24 **	.28 **	.12
27. Conservation of Resources - Drain	-.19 *	-.02	-.05	-.11	-.09	.07	.13	-.05	.09	.17 *
28. Stress in General	-.24 **	.11	.03	-.20 **	-.22 **	.22 **	.20 **	.07	.11	.14

Note. * denotes $p < .05$, ** denotes $p < .01$; N ranges from 160-178; female coded 1 = female, 0 = male

Table 5. Continued

	18.	*19.*	*20.*	*21.*	*22.*	*23.*	*24.*	*25.*	*26.*	*27.*	*28.*
1. Age											
2. Education											
3. Income											
4. Work Hours											
5. Female											
6. Core Self Evaluation											
7. Negative Affectivity											
8. Autonomy											
9. Task Variety											
10. Task Significance											
11. Task Identity											
12. Feedback from Job											
13. Job Complexity											
14. Information Processing											
15. Problem Solving											
16. Skill Variety											
17. Specialization											
18. Social Support											
19. Interdependence	.29 **										
20. Interaction Outside the Organization	.19 **	.17 *									
21. Feedback from Others	.45 **	.20 **	.16 *								
22. Ergonomics	.30 **	.00	.06	.16 *							
23. Physical Demands	-.07	.21 **	.07	.07	-.22 **						
24. Work Conditions	.25 **	-.24 **	.06	.03	.43 **	-.42 **					
25. Equipment Use	-.10	.05	.07	-.04	-.02	.38 **	-.29 **				
26. Conservation of Resources -	.47 **	.22 **	.18 *	.36 **	.33 **	.02	.20 **	.03			
27. Conservation of Resources - Drain	-.31 **	.10	.02	-.11	-.22 **	.17 *	-.24 **	.25 **	-.33 **		
28. Stress in General	-.26 **	.05	.07	-.18 *	-.16 *	.19 **	-.19 *	.12	-.34 **	.43 **	

Note. * denotes $p < .05$, ** denotes $p < .01$; N ranges from 160-178; female coded 1 = female, 0 = male

Table 6

Indirect Effects between Positive Work Characteristics and Perceived Occupational Stress

			BC 95% CI	
	Point Estimate	*SE*	Lower	Upper
Positive Task Characteristics - RIJ - Perceived Occupational Stress				
Autonomy	-0.0440 *	0.0273	-0.1155	-0.0064
Task Variety	-0.0083	0.0174	-0.0534	0.0193
Task Significance	-0.0364 *	0.0223	-0.0949	-0.0053
Task Identity	-0.0257 *	0.0186	-0.0761	-0.0002
Feedback from Job	-0.0124	0.0168	-0.0575	0.0127
TOTAL	-0.0145 *	0.0088	-0.0337	-0.0023
Full Model Adj. $R^2 = .4023$, $F(13, 145) = 9.1793$, $p < .001$				
Positive Knowledge Characteristics - RIJ - Perceived Occupational Stress				
Job Complexity	0.0237	0.0232	-0.0102	0.0873
Information Processing	0.0597 *	0.0393	0.0053	0.1676
Problem Solving	-0.0576 *	0.0299	-0.1396	-0.0145
Skill Variety	-0.0450 *	0.0326	-0.1367	-0.0015
Specialization	0.0155	0.0206	-0.0191	0.0665
TOTAL	-0.0078	0.0068	-0.0234	0.0000
Full Model Adj. $R^2 = .4030$, $F(13, 145) = 9.2057$, $p < .001$				
Positive Social Characteristics - RIJ - Perceived Occupational Stress				
Social Support	-0.0791 *	0.0403	-0.1871	-0.0201
Interdependence	0.0207	0.0191	-0.0048	0.0737
Interaction Outside the Organization	-0.0143	0.0122	-0.0477	0.0014
Feedback from the Organization	0.0024	0.0137	-0.0259	0.0310
TOTAL	-0.0129 *	0.0094	-0.0391	-0.0015
Full Model Adj. $R^2 = .3860$, $F(12, 146) = 9.2773$, $p < .001$				
Positive Work Context - RIJ - Perceived Occupational Stress				
Ergonomics	-0.0333 *	0.0216	-0.0901	-0.0005
Physical Demands	-0.0284	0.0224	-0.0839	0.0079
Work Conditions	-0.0425 *	0.0287	-0.1171	-0.0009
Equipment Use	0.0081	0.0169	-0.0206	0.0502
TOTAL	-0.0069	0.0061	-0.0185	0.0009
Full Model Adj. $R^2 = .3740$, $F(12, 146) = 8.8648$, $p < .001$				

Note. The procedures followed for this analysis are summarized in Preacher & Hayes (2008) and described in the manuscript itself; BC = bias corrected estimates, based on 10,000 bootstrap samples. * denotes $p < .05$.

Table 7

Indirect Effects of Covariates on Model 1

	Resource Impact on Job (RIJ)	Perceived Occupational Stress (SIG scale)
Age	-.0230 *	.0103
Education	.1671	-.0418
Income	.0000	.0000
Work Hours	-.0230	.0349 *
Female	-.1382	.1507
Core Self Evaluation	.6437 *	.0088
Negative Affectivity	-.5538 *	.3814 *

Note. Coefficients represent unstandardized regression coefficients. $N = 178$

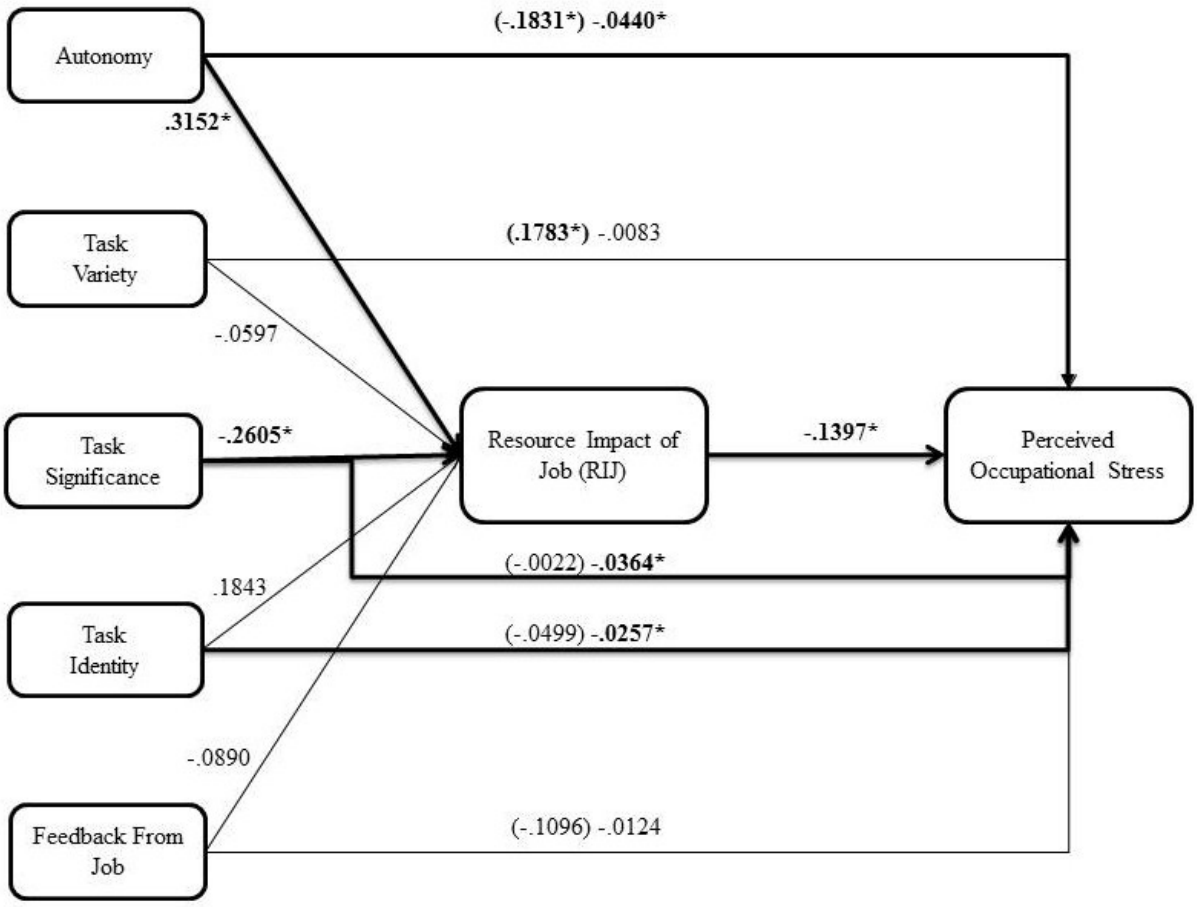

Figure 2 Indirect Effects between Positive Task Characteristics and Perceived Occupational Stress

Note. Coefficients represent unstandardized regression coefficients after covariates were added to the model. Coefficients in parentheses represent direct effects before the mediator was included in the model. $N = 178$

Hypothesis 2 stated that (a) positive knowledge characteristics are negatively related to perceived occupational stress and (b) this relationship is mediated by employees' perceived resource impact of the job. In the absence of the RIJ mediator, information processing was the only variable that significantly predicted perceived stress, but the relationship was positive, not negative like predicted meaning Hypothesis 2a was not supported. With the inclusion of the RIJ as a mediator, however, significant indirect effects were found for information processing, problem solving, and skill variety, also showing partial support for Hypothesis 2b. As an indication of overall fit, before accounting for the mediator, this model accounted for 38% of the variance. After including the RIJ mediator, the full model accounted for 40% of the variance in perceived work-related stress.

Table 8

Indirect Effects of Covariates on Model 2

	Resource Impact on Job (RIJ)	Perceived Occupational Stress (SIG scale)
Age	-.0046	.0066
Education	.0789	-.0716
Income	.0000	.0000
Work Hours	-.0137	.0274 *
Female	-.0033	.1394
Core Self Evaluation	.7987 *	-.0372
Negative Affectivity	-.6324 *	.3582 *

Note. Coefficients represent unstandardized regression coefficients. $N = 178$

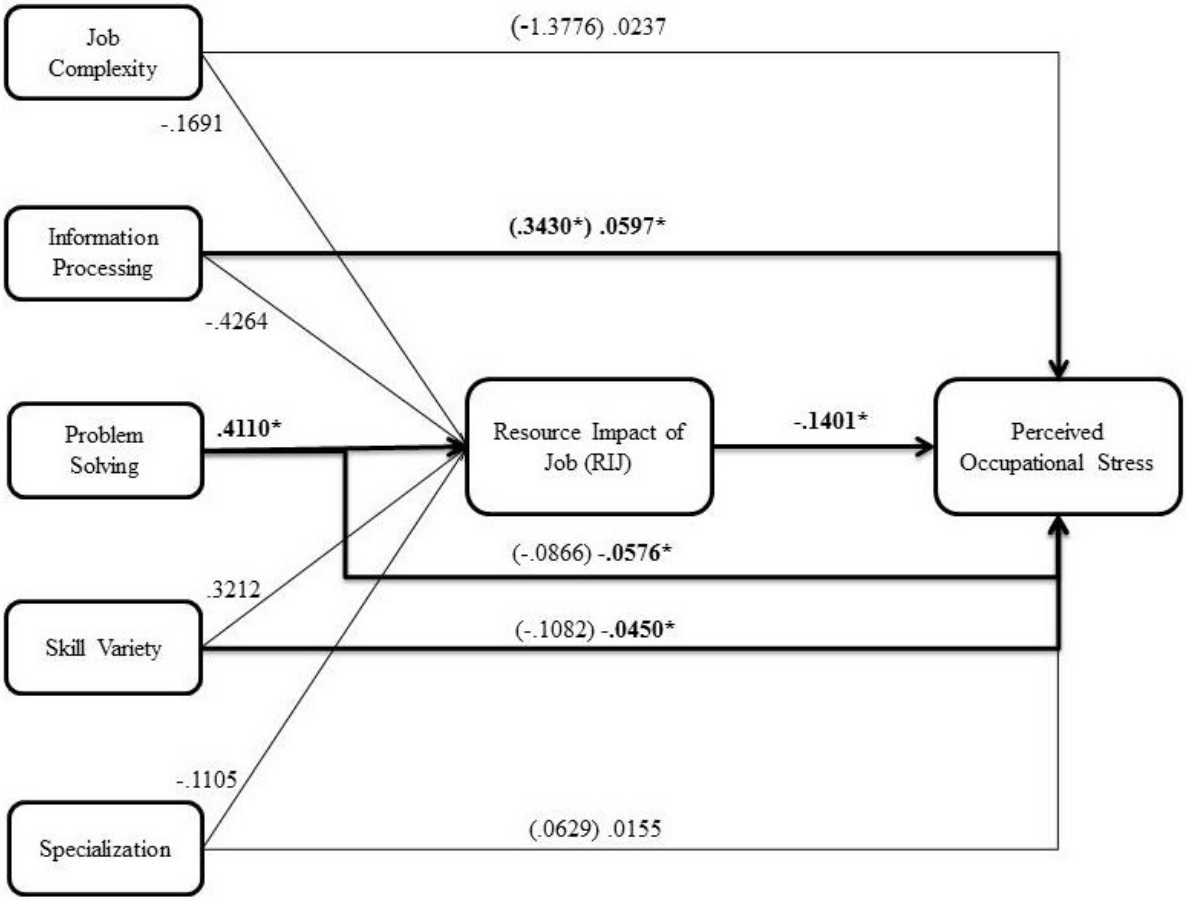

Figure 3 Indirect Effects between Positive Knowledge Characteristics and Perceived Occupational Stress

Note. Coefficients represent unstandardized regression coefficients after covariates were added to the model. Coefficients in parentheses represent direct effects before the mediator was included in the model. $N = 178$

Hypothesis 3 stated that (a) positive social characteristics are negatively related to perceived occupational stress and (b) this relationship is mediated by employees' perceived resource impact of the job. None of these work characteristics were significantly related to perceived work-related stress without RIJ (although interdependence was close with a *p* value of .051). Therefore, Hypothesis 3a was not supported. With the inclusion of RIJ as a mediator, however, social support had a significant indirect effect on perceived work-related stress. In addition, the overall set of indirect effects linking positive social characteristics and perceived occupational stress was also significant. These results provide partial support for Hypothesis 3b. As an indication of overall fit of the model, before accounting for RIJ as the mediator, the covariates and positive social characteristics accounted for 37% of the variance. After including RIJ in the model, the explained variance rose to 38%.

Table 9

Indirect Effects of Covariates on Model 3

	Resource Impact on Job (RIJ)	Perceived Occupational Stress (SIG scale)
Age	-.0079	.0100
Education	.0805	-.0320
Income	.0000	.0000
Work Hours	-.0198	.0370 *
Female	-.1733	.2241
Core Self Evaluation	.7521 *	.0445
Negative Affectivity	-.4831 *	.3780 *

Note. Coefficients represent unstandardized regression coefficients. $N = 178$

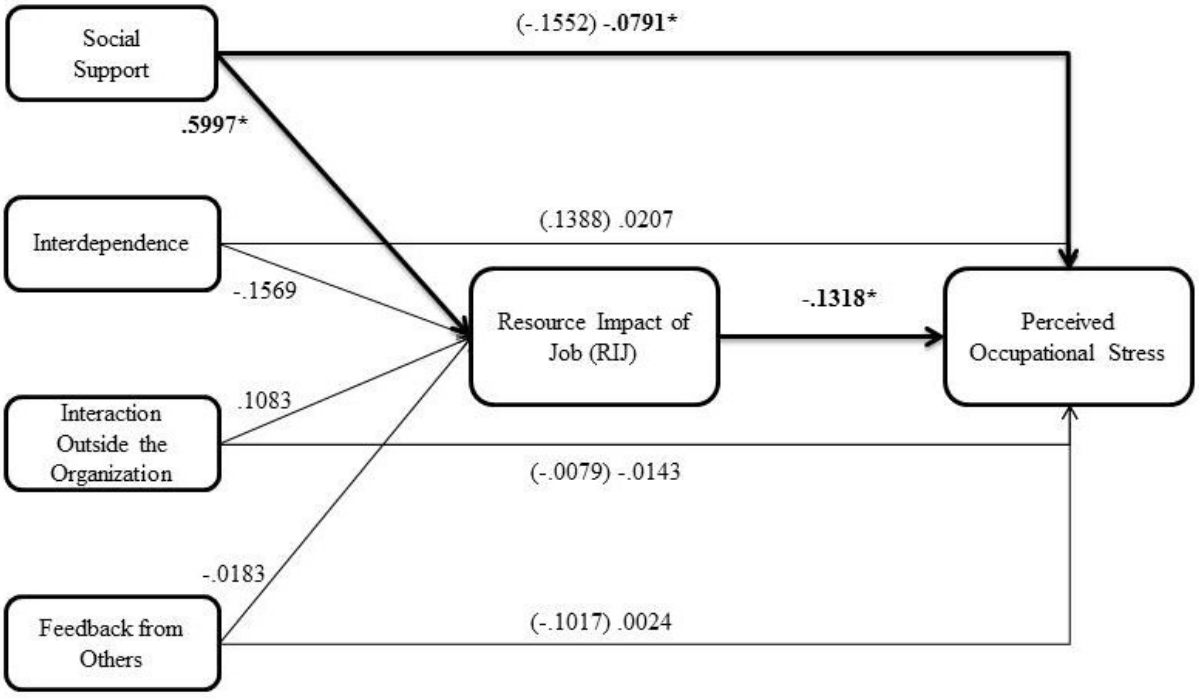

Figure 4 Indirect Effects between Positive Social Characteristics and Perceived Occupational Stress

Note. Coefficients represent unstandardized regression coefficients after covariates were added to the model. Coefficients in parentheses represent direct effects before the mediator was included in the model. $N = 178$

Hypothesis 4 stated that (a) positive work context is negatively related to perceived occupational stress and (b) this relationship is mediated by employees' perceived resource impact of the job. Before including RIJ as the mediator, none of the variables showed a significant relationship with perceived occupational stress; therefore Hypothesis 4a was not supported. Once the RIJ mediator was added to the model, though, both ergonomics and work conditions became significant, thus partially supporting Hypothesis 4b. As an indication of overall fit, the model excluding RIJ as a mediator accounted for 33% of the variance, while after including the RIJ, it explained 37% of the variance in perceived work-related stress.

Table 10

Indirect Effects of Covariates on Model 4

	Resource Impact on Job (RIJ)	Perceived Occupational Stress (SIG scale)
Age	-.0089	.0099
Education	.0633	-.0329
Income	.0000	.0000
Work Hours	-.0164	.0357 *
Female	-.0597	.2479
Core Self Evaluation	.7809 *	.0242
Negative Affectivity	-.5153 *	.3530 *

Note. Coefficients represent unstandardized regression coefficients. $N = 178$

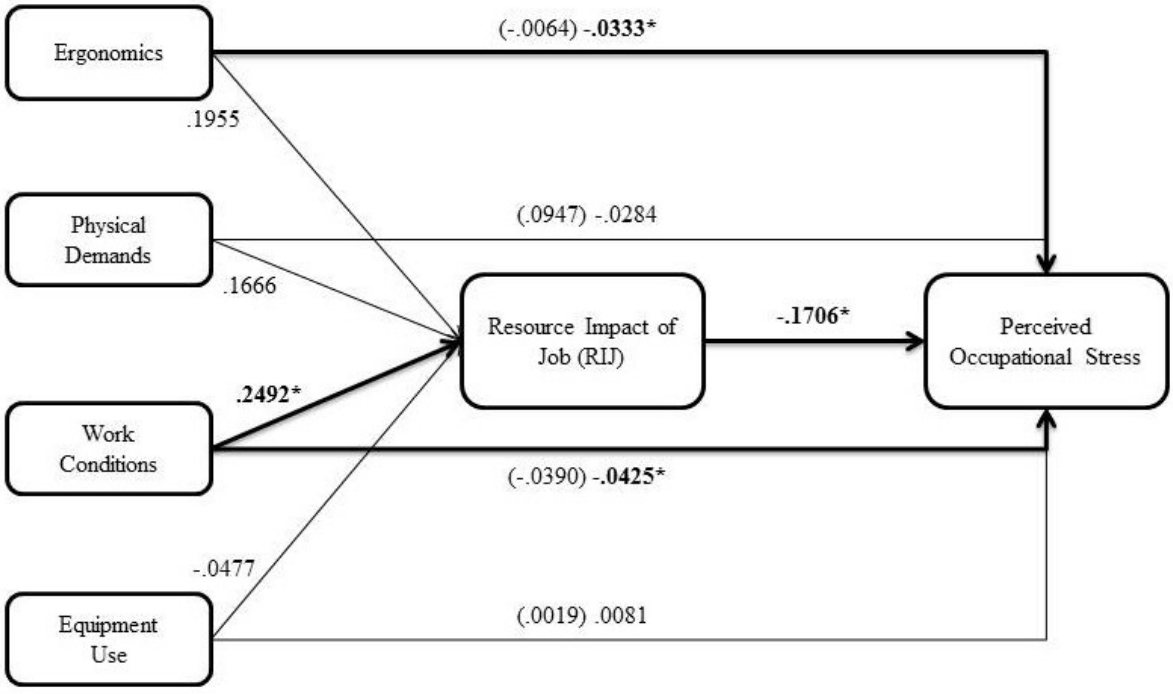

Figure 5 Indirect Effects between Positive Work Context and Perceived Occupational Stress

Note. Coefficients represent unstandardized regression coefficients after covariates were added to the model. Coefficients in parentheses represent direct effects before the mediator was included in the model. $N = 178$

CHAPTER VI

DISCUSSION

The purpose of the present study was to identify whether certain positive work design characteristics would be related to perceptions of work-related stress and, perhaps more importantly, to determine whether this linkage was mediated by the degree to which a person's work is perceived as more resource draining or resource replenishing.

Most of the present findings corroborate previous research that indicates a negative relationship between the positive work design characteristics of the WDQ and perceived occupational stress (Jex, Britt, & Thomas, 2008; Lee & Ashforth, 1996). The findings regarding the perceived RIJ and its relationship with perceived work-related stress supported previous research (Freedy & Hobfoll, 1994; Hobfoll & Lilly, 1993). All of the hypothesized indirect effects were partially supported, meaning in each model at least one work design characteristic had a significant relationship with perceived occupational stress but none of the models showed a significant relationship with all of the work design characteristics. These findings indicate that perceived RIJ mediates the relationship between at least one of the specific work characteristics within each of the four positive work design categories and work-related stress.

None of the hypothesized models were fully supported, however, meaning there was no situation in which all of the specific work characteristics within the four WDQ categories directly impacted perceived occupational stress. In one case there was partial support for such direct impacts on stress (H1a), but generally the impact of work characteristics on stress was not

direct. This is an important finding and suggests that work characteristics do play an important role in at least partially determining workers' experience with stress on the job, but that this role is likely mediated by factors such as the workers' perceived RIJ.

In addition to the tests of the hypotheses, there were a couple other interesting findings worth mentioning. First, task variety was significantly and positively related to perceived occupational stress before RIJ was included in the model. This finding supports previous suggestions that all employees do not necessarily thrive on having variety added into their jobs (Jex & Bliese, 1999). When RIJ was added as the mediator, however, this relationship became negative and non-significant.

Second, information processing was significantly and positively related to perceived occupational stress both before and after RIJ was included in the model. This relationship makes sense when one realizes that information processing includes monitoring information and multitasking, tasks that require effort and resources to maintain accuracy and vigilance.

Limitations

There were several limitations to this study. One limitation involves the potential representativeness of the sample. To try to minimize homogeneity among the participants, data were collected from a variety of geographic locations, occupations, and age groups. Regardless of this attempt, however, the sample consisted primarily of highly educated, female, and white collar workers. Future studies would benefit from including a more diverse set of occupations including blue collar workers such as line workers, construction workers, etc. Additionally, this study suffered from a small sample size. Although the analytical techniques used in testing the

hypotheses help to address this limitation, future studies will benefit from gathering data from larger samples.

Another limitation was that I specified work design characteristics to broaden the scope from just the job and to also include the work environment, however, the resource drain and gain survey instructions asked participants to focus on their jobs instead of their experiences in the broader work environment. This may seem like a subtle distinction, but future research is likely to gain a truer picture of the resource impact of the work environment if using a broader work environment frame for participants. Though the distinction between job and work, as identified by Morgeson and Humphrey (2006), was not presented to the participants, it would also be interesting to see if different results were found if the wording remained consistent throughout the study.

Finally, the collection methods used lend themselves to multiple inherent biases. First, though self-report data was the most convenient way to collect this information, participants may not have responded 100% accurately. However, in many ways it is the perception of the work environment that matters most given the present research objectives, not the objective reality of a person's work environment. Also, all of the measures were collected in the same manner, opening this study up to common method bias. Future research may benefit from using multiple collection methods such as surveys, interviews, or observations.

Implications and Future Research

The present methods and findings have the potential to guide improvements in work design that may minimize work-related stress and improve employee satisfaction and productivity. In addition to these findings, job resources have also been directly linked to

organizational commitment and indirectly to absenteeism (Bakker, Demerouti, de Boer, & Schaufeli, 2003). Future research, as previously mentioned, should include a broader demographic to see the differences between blue and white collar workers. It may also be interesting to look at these effects across various levels of employees such as entry level employees, managers and supervisors, and executives. It may be that different levels of jobs attract employees who want and thrive off of different work design characteristics.

With regards to personality affecting what employees find stressful or not in the workplace, the Core Self Evaluation and the Negative Affectivity scales both showed very significant relationships with the RIJ mediator throughout all of the hypotheses models. This may also be something interesting to look at in more detail in future research. It could be that personality is a predominant driving force in how employees perceive stress.

The primary implications of this research are that work design matters, but so do individual workers' perceptions of the impact of the job and work environment on their resources. One strength of this study was that all of the findings were after controlling for personality covariates that explain the general perspective people have toward the world. The present findings leave several unanswered questions, though. Various work design characteristics showed significant negative relationships with perceived occupational stress. There were also some characteristics, however, that showed positive relationships with perceived occupational stress. This study also found that employees' perception of resource drain or gain mediated this relationship, but only with certain characteristics. A final suggestion for future research would be to include a section in the survey to gauge employees' perceptions of importance of the aforementioned resources. With the knowledge that work design obviously has some impact on occupational stress, though, employers will be able to redesign jobs that are

missing these key elements to reduce employee stress in the workplace. This should help increase employee motivation and productivity while decreasing worker sick days and turnover.

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APPENDIX A

IRB APPROVAL

MEMORANDUM

TO: Whitney Huskey
Dr. Chris Cunningham

IRB # 12- 180

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: November 5, 2012

SUBJECT: IRB # 12-180: A Resource Management Perspective on Work Design

The Institutional Review Board has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #12-180.

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu

Best wishes for a successful research project.

APPENDIX B

COPY OF MEASURES PACKET

Huskey - thesis survey

Informed Consent Form

Purpose of the Study:
This study is being conducted by Whitney Huskey, a graduate student at the University of Tennessee at Chattanooga, under the supervision of Dr. Chris Cunningham. The purpose is to identify various aspects of the work environment that relate to occupational stress.

What will be done:
If you agree to participate you will fill out a survey, which will take no more than 20 minutes of your time. This survey includes questions about your work environment, feelings about resource drain or gain, and stress in general. Some demographic questions are also included so that we can accurately describe the characteristics of the final group of participants.

Benefits of this Study:
You will be contributing to a growing base of knowledge regarding occupational stress and work design.

What are the risks to me?
The risks of this study are anticipated to be limited to the inconvenience of taking the survey. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded. We can only make use of fully complete surveys, however, so we greatly appreciate your full cooperation.

Confidentiality:
Your responses will be kept completely confidential. You will be assigned a participant identification code, and this is the only identification that will be associated with your survey responses (we will not be asking for your name). Only the researchers will see your individual survey responses and these responses will be stored in a locked storage room.

Decision to quit at any time:
Your participation is voluntary; you are free to withdraw your participation from this study at any time. You also may choose to skip any questions that you do not wish to answer.

How the findings will be used:
The results of this study will be used for research purposes only. The results from the study will be presented in educational settings and at professional conferences, and the results might be published in a professional journal in the field of psychology.

Contact information:
If you have concerns or questions about this study, please contact the chair of UTC's Institutional Review Board, Dr. Bart Weathington at bart-weathington@utc.edu or 423-425-4289, or Dr. Chris Cunningham at Chris-Cunningham@utc.edu or 423-425-4264. By completing and returning this survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Thank you in advance for your assistance and participation.

Sincerely,
Whitney Huskey
Chris Cunningham, Ph.D.
The University of Tennessee Chattanooga

This project (#12-180) has been approved for compliance with ethical guidelines by the Institutional Review Board at the University of Tennessee at Chattanooga

***I have read the above and agree to participate in this study.**

◯ Yes

Page 1

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement regarding your job.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
1. My job allows me to make my own decisions about how to schedule my work	○	○	○	○	○
2. My job allows me to decide on the order in which things are done on the job	○	○	○	○	○
3. My job allows me to plan how I do my work	○	○	○	○	○
4. My job gives me a chance to use my personal initiative or judgement in carrying out the work	○	○	○	○	○
5. My job allows me to make a lot of decisions on my own	○	○	○	○	○
6. My job provides me with significant autonomy in making decisions	○	○	○	○	○
7. My job allows me to make decisions about what methods I use to complete my work	○	○	○	○	○
8. My job gives me considerable opportunity for independence and freedom in how I do the work	○	○	○	○	○
9. My job allows me to decide on my own how to go about doing my work	○	○	○	○	○
10. My job involves a great deal of task variety	○	○	○	○	○
11. My job involves doing a number of different things	○	○	○	○	○
12. My job requires the performance of a wide range of tasks	○	○	○	○	○
13. My job involves performing a variety of tasks	○	○	○	○	○
14. The results of my work are likely to significantly affect the lives of other people	○	○	○	○	○
15. The job itself is very significant and important in the broader scheme of things	○	○	○	○	○
16. My job has a large impact on people outside the organization	○	○	○	○	○
17. The work performed on the job has a significant impact on people outside the organization	○	○	○	○	○

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement regarding your job.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
18. My job involves completing a piece of work that has an obvious beginning and end	○	○	○	○	○
19. My job is arranged so that I can do an entire piece of work from beginning to end	○	○	○	○	○
20. My job provides me the chance to completely finish the pieces of work I begin	○	○	○	○	○
21. My job allows me to complete work I start	○	○	○	○	○
22. The work activities themselves provide direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance	○	○	○	○	○
23. The job itself provides feedback on my performance	○	○	○	○	○
24. The job itself provides me with information about my performance	○	○	○	○	○
25. My job requires that I only do one task or activity at a time	○	○	○	○	○
26. The tasks on the job are simple and uncomplicated	○	○	○	○	○
27. My job comprises relatively uncomplicated tasks	○	○	○	○	○
28. My job involves performing relatively simple tasks	○	○	○	○	○
29. My job requires me to monitor a great deal of information	○	○	○	○	○
30. My job requires that I engage in a large amount of thinking	○	○	○	○	○
31. My job requires me to keep track of more than one thing at a time	○	○	○	○	○
32. My job requires me to analyze a lot of information	○	○	○	○	○

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement regarding your job.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
33. My job involves solving problems that have no obvious correct answer	○	○	○	○	○
34. My job requires me to be creative	○	○	○	○	○
35. My job often involves dealing with problems that I have not met before	○	○	○	○	○
36. My job requires unique ideas or solutions to problems	○	○	○	○	○
37. My job requires a variety of skills	○	○	○	○	○
38. My job requires me to utilize a variety of different skills in order to complete the work	○	○	○	○	○
39. My job requires me to use a number of complex or high-level skills	○	○	○	○	○
40. My job requires the use of a number of skills	○	○	○	○	○
41. My job is highly specialized in terms of purpose, tasks, or activities	○	○	○	○	○
42. The tools, procedures, materials, and so forth used on this job are highly specialized in terms of purpose	○	○	○	○	○
43. My job requires very specialized knowledge and skills	○	○	○	○	○
44. My job requires a depth of knowledge and expertise	○	○	○	○	○

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement regarding your job.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
45. I have the opportunity to develop close friendships in my job	○	○	○	○	○
46. I have the chance in my job to get to know other people	○	○	○	○	○
47. I have the opportunity to meet with others in my work	○	○	○	○	○
48. My supervisor is concerned about the welfare of the people that work for him/her	○	○	○	○	○
49. People I work with take a personal interest in me	○	○	○	○	○
50. People I work with are friendly	○	○	○	○	○
51. My job requires me to accomplish my job before others complete their job	○	○	○	○	○
52. Other jobs depend directly on my job	○	○	○	○	○
53. Unless my job gets done, other jobs cannot be completed	○	○	○	○	○
54. My job activities are greatly affected by the work of other people	○	○	○	○	○
55. My job depends on the work of many different people for its completion	○	○	○	○	○
56. My job cannot be done unless others do their work	○	○	○	○	○
57. My job requires spending a great deal of time with people outside my organization	○	○	○	○	○
58. My job involves interaction with people who are not members of my organization	○	○	○	○	○
59. On the job, I frequently communicate with people who do not work for the same organization as I do	○	○	○	○	○
60. My job involves a great deal of interaction with people outside my organization	○	○	○	○	○

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement regarding your job.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
61. I receive a great deal of information from my manager and coworkers about my job performance	○	○	○	○	○
62. Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my job performance	○	○	○	○	○
63. I receive feedback on my performance from other people in my organization (such as my manager or coworkers)	○	○	○	○	○
64. The seating arrangements on the job are adequate (e.g., ample opportunities to sit, comfortable chairs, good postural support	○	○	○	○	○
65. The work place allows for all size differences between people in terms of clearance, reach, eye height, leg room, etc.	○	○	○	○	○
66. My job involves excessive reaching	○	○	○	○	○
67. My job requires a great deal of muscular endurance	○	○	○	○	○
68. My job requires a great deal of muscular strength	○	○	○	○	○
69. My job requires a lot of physical effort	○	○	○	○	○
70. The work place is free from excessive noise	○	○	○	○	○
71. The climate at the work place is comfortable in terms of temperature and humidity	○	○	○	○	○
72. My job has a low risk of accident	○	○	○	○	○
73. My job takes place in an environment free from health hazards (e.g., chemicals, fumes, etc.)	○	○	○	○	○
74. My job occurs in a clean environment	○	○	○	○	○
75. My job involves the use of a variety of different equipment	○	○	○	○	○
76. My job involves the use of complex equipment or technology	○	○	○	○	○
77. A lot of time was required to learn the equipment used on the job	○	○	○	○	○

Huskey - thesis survey

"Resources" are psychological or physical factors that allow us to respond to demands and changes in our daily lives. Some of our daily activities require more from us than they give back, which makes them draining activities. Other activities, however, help us gain more by participating in them than we invested, which helps us feel replenished.

Think back over the last 4 weeks. To what extent has participating in work-related activities helped you to <u>REPLENISH</u> each of the following resources?

	Not at all	To a small extent	To a moderate extent	To a large extent	Completely
1. Feeling that I am successful	◯	◯	◯	◯	◯
2. Time for adequate sleep	◯	◯	◯	◯	◯
3. Feeling valuable to others	◯	◯	◯	◯	◯
4. Sense of pride in myself	◯	◯	◯	◯	◯
5. "Free time"	◯	◯	◯	◯	◯
6. Time for work	◯	◯	◯	◯	◯
7. Feelings that I am accomplishing my goals	◯	◯	◯	◯	◯
8. Hope	◯	◯	◯	◯	◯
9. Time with loved ones	◯	◯	◯	◯	◯
10. Necessary tools for work	◯	◯	◯	◯	◯
11. Stamina/endurance	◯	◯	◯	◯	◯
12. Personal health	◯	◯	◯	◯	◯
13. Feeling that my future success depends on me	◯	◯	◯	◯	◯
14. A positively challenging routine	◯	◯	◯	◯	◯
15. Sense of optimism	◯	◯	◯	◯	◯
16. Status/seniority at work	◯	◯	◯	◯	◯
17. Stable employment	◯	◯	◯	◯	◯
18. Feeling that I have control over my life	◯	◯	◯	◯	◯

Huskey - thesis survey

"Resources" are psychological or physical factors that allow us to respond to demands and changes in our daily lives. Some of our daily activities require more from us than they give back, which makes them draining activities. Other activities, however, help us gain more by participating in them than we invested, which helps us feel replenished.

Think back over the last 4 weeks. To what extent has participating in work-related activities helped you to <u>REPLENISH</u> each of the following resources?

	Not at all	To a small extent	To a moderate extent	To a large extent	Completely
19. A role as a leader	◯	◯	◯	◯	◯
20. Ability to communicate well	◯	◯	◯	◯	◯
21. Feeling that my life is peaceful	◯	◯	◯	◯	◯
22. Acknowledgement for accomplishment	◯	◯	◯	◯	◯
23. Ability to organize tasks	◯	◯	◯	◯	◯
24. Sense of commitment	◯	◯	◯	◯	◯
25. Intimacy with at least one friend	◯	◯	◯	◯	◯
26. Understanding from my employer/boss	◯	◯	◯	◯	◯
27. Companionship	◯	◯	◯	◯	◯
28. Motivation to get things done	◯	◯	◯	◯	◯
29. Support from co-workers	◯	◯	◯	◯	◯
30. Feeling independent	◯	◯	◯	◯	◯
31. Affection from others	◯	◯	◯	◯	◯
32. Feeling that my life has meaning or purpose	◯	◯	◯	◯	◯
33. Positive feelings about myself	◯	◯	◯	◯	◯
34. People I can learn from	◯	◯	◯	◯	◯
35. Help with tasks at work	◯	◯	◯	◯	◯
36. Loyalty of friends	◯	◯	◯	◯	◯

Huskey - thesis survey

"Resources" are psychological or physical factors that allow us to respond to demands and changes in our daily lives. Some of our daily activities require more from us than they give back, which makes them draining activities. Other activities, however, help us gain more by participating in them than we invested, which helps us feel replenished.

Think back over the last 4 weeks. To what extent has participating in work-related activities <u>DRAINED</u> you of each of the following resources?

	Not at all	To a small extent	To a moderate extent	To a large extent	Completely
1. Feeling that I am successful	◯	◯	◯	◯	◯
2. Time for adequate sleep	◯	◯	◯	◯	◯
3. Feeling valuable to others	◯	◯	◯	◯	◯
4. Sense of pride in myself	◯	◯	◯	◯	◯
5. "Free time"	◯	◯	◯	◯	◯
6. Time for work	◯	◯	◯	◯	◯
7. Feelings that I am accomplishing my goals	◯	◯	◯	◯	◯
8. Hope	◯	◯	◯	◯	◯
9. Time with loved ones	◯	◯	◯	◯	◯
10. Necessary tools for work	◯	◯	◯	◯	◯
11. Stamina/endurance	◯	◯	◯	◯	◯
12. Personal health	◯	◯	◯	◯	◯
13. Feeling that my future success depends on me	◯	◯	◯	◯	◯
14. A positively challenging routine	◯	◯	◯	◯	◯
15. Sense of optimism	◯	◯	◯	◯	◯
16. Status/seniority at work	◯	◯	◯	◯	◯
17. Stable employment	◯	◯	◯	◯	◯
18. Feeling that I have control over my life	◯	◯	◯	◯	◯

Huskey - thesis survey

"Resources" are psychological or physical factors that allow us to respond to demands and changes in our daily lives. Some of our daily activities require more from us than they give back, which makes them draining activities. Other activities, however, help us gain more by participating in them than we invested, which helps us feel replenished.

Think back over the last 4 weeks. To what extent has participating in work-related activities <u>DRAINED</u> you of each of the following resources?

	Not at all	To a small extent	To a moderate extent	To a large extent	Completely
19. A role as a leader	◯	◯	◯	◯	◯
20. Ability to communicate well	◯	◯	◯	◯	◯
21. Feeling that my life is peaceful	◯	◯	◯	◯	◯
22. Acknowledgement for accomplishment	◯	◯	◯	◯	◯
23. Ability to organize tasks	◯	◯	◯	◯	◯
24. Sense of commitment	◯	◯	◯	◯	◯
25. Intimacy with at least one friend	◯	◯	◯	◯	◯
26. Understanding from my employer/boss	◯	◯	◯	◯	◯
27. Companionship	◯	◯	◯	◯	◯
28. Motivation to get things done	◯	◯	◯	◯	◯
29. Support from co-workers	◯	◯	◯	◯	◯
30. Feeling independent	◯	◯	◯	◯	◯
31. Affection from others	◯	◯	◯	◯	◯
32. Feeling that my life has meaning or purpose	◯	◯	◯	◯	◯
33. Positive feelings about myself	◯	◯	◯	◯	◯
34. People I can learn from	◯	◯	◯	◯	◯
35. Help with tasks at work	◯	◯	◯	◯	◯
36. Loyalty of friends	◯	◯	◯	◯	◯

Huskey - thesis survey

Do you find your job stressful? For each of the following words or phrases below, select:
Y for "Yes" if it describes your job
N for "No" if it does not describe your job
? for "?" if you cannot decide

	Yes	No	?
1. Demanding	○	○	○
2. Pressured	○	○	○
3. Calm	○	○	○
4. Many things stressful	○	○	○
5. Hassled	○	○	○
6. Nerve-racking	○	○	○
7. More stressful than I'd like	○	○	○
8. Overwhelming	○	○	○

Huskey - thesis survey

Rate the extent to which you agree or disagree with the statement.

	Disagree strongly	Disagree moderately	Neither disagree, nor agree	Agree moderately	Agree strongly
1. I am confident I get the success I deserve in life.	◯	◯	◯	◯	◯
2. Sometimes I feel depressed.	◯	◯	◯	◯	◯
3. When I try, I generally succeed.	◯	◯	◯	◯	◯
4. Sometimes when I fail I feel worthless.	◯	◯	◯	◯	◯
5. I complete tasks successfully.	◯	◯	◯	◯	◯
6. Sometimes, I do not feel in control of my work.	◯	◯	◯	◯	◯
7. Overall, I am satisfied with myself.	◯	◯	◯	◯	◯
8. I am filled with doubts about my competence.	◯	◯	◯	◯	◯
9. I determine what will happen in my life.	◯	◯	◯	◯	◯
10. I do not feel in control of my success in my career.	◯	◯	◯	◯	◯
11. I am capable of coping with most of my problems.	◯	◯	◯	◯	◯
12. There are times when things look pretty bleak and hopeless to me.	◯	◯	◯	◯	◯

Huskey - thesis survey

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then indicate the extent to which you have felt this way during the past few weeks.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
1. Afraid	◯	◯	◯	◯	◯
2. Scared	◯	◯	◯	◯	◯
3. Nervous	◯	◯	◯	◯	◯
4. Jittery	◯	◯	◯	◯	◯
5. Irritable	◯	◯	◯	◯	◯
6. Hostile	◯	◯	◯	◯	◯
7. Guilty	◯	◯	◯	◯	◯
8. Ashamed	◯	◯	◯	◯	◯
9. Upset	◯	◯	◯	◯	◯
10. Distressed	◯	◯	◯	◯	◯

Huskey - thesis survey

I am...

- ◯ Male
- ◯ Female

Please enter your age

(please round to the nearest year):

Please select the ethnicity with which you most closely identify.

- ◯ American Indian or Alaska Native
- ◯ Native Hawaiian or other Pacific Islander
- ◯ Black or African American
- ◯ White
- ◯ Asian
- ◯ Spanish, Hispanic, or Latino

What is the highest level of education you have received?

- ◯ Some high school
- ◯ Bachelor's degree
- ◯ Completed high school
- ◯ Some graduate school
- ◯ Some college
- ◯ Master's degree
- ◯ Associate's degree
- ◯ Doctoral degree

Please identify your martial status.

- ◯ Single
- ◯ Married/Living as married
- ◯ Divorced

Please enter your annual household income.

(please round to the nearest thousand):

How many dependents do you support (children or elder adults)?

(please enter number here):

Please enter the average number of hours you work in a week (if you work multiple jobs, please add the hours together).

(please round to the nearest whole number):

Huskey - thesis survey

Please identify the industry in which you primarily work. If your industry is not listed, please identify within the 'other' box.

- ◯ a) Manufacturing
- ◯ b) Retail
- ◯ c) Wholesale
- ◯ c) Transportation & Warehousing
- ◯ d) Information
- ◯ e) Financial activities
- ◯ f) Professional & Business Services
- ◯ g) Education & Health Services
- ◯ h) Leisure & Hospitality
- ◯ i) Government

Other (please specify)

What is your current job title?

In your current job, do you function as a supervisor/manager of other workers?

- ◯ No
- ◯ Yes

Huskey - thesis survey

To be entered into the drawing for one of five $20 gift cards, please enter your email address below. PLEASE NOTE: This information will be kept separate from your responses to the survey and used only for the purposes of the incentive drawing at the study's conclusion.

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VITA

Whitney Huskey is from Yorktown, Virginia and is the daughter of Rodney and Kimberly Huskey. She attended Virginia Polytechnic Institute and State University (Virginia Tech) where she double majored in Psychology and Sociology with a concentration in Crime and Deviance. While at Virginia Tech, she was a member of Kappa Kappa Gamma, the Psychology Club, Psi Chi, and the National Society for Leadership and Success. She graduated Cum Laude with a Bachelor of Science in 2011 and moved to Chattanooga, Tennessee to begin her Master's in Industrial-Organizational Psychology at The University of Tennessee at Chattanooga (UTC). During her time at UTC, she has been a teaching assistant for a statistics laboratory as well as a graduate assistant for the Center for Online and Distance Learning. She has also worked on multiple consulting projects with various companies ranging from a Fortune 500 organization to a national non-profit organization. She has continued to grow both academically and professionally through her student membership with the Society for Industrial Organizational Psychologists (SIOP) as well as through her role as Vice President for UTC's graduate chapter of the Society for Human Resource Management (SHRM). Whitney will graduate from UTC in May 2013 with a Master of Science in Industrial-Organizational Psychology.